

**METHOD AND APPARATUS FOR DETECTING EMBEDDED REBAR WITHIN  
AN INTERACTION REGION OF A STRUCTURE IRRADIATED WITH LASER  
LIGHT**

Abstract of the Invention

A detection system is used during irradiation of an interaction region of a structure with laser light. The structure includes embedded material. The detection system includes a focusing lens positioned to receive light emitted from the interaction region. The detection system further includes an optical fiber optically coupled to the focusing lens to receive light from the focusing lens. The detection system further includes a spectrometer optically coupled to the optical fiber to receive light from the optical fiber. The spectrometer is adapted for analysis of the light for indications of the embedded material within the interaction region.

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